Word Problems

Understanding the Topic

- Word problems are real-life situations where we apply the concepts of area and perimeter.
- To solve these problems, we must understand what is given and what is asked.

Steps to Solve Word Problems

- Read the problem carefully.
- Identify if it asks for area or perimeter.
- Use the correct formula.
- Convert units if needed.
- Solve and write the correct unit in the final answer.

Key Formulas to Remember

- Area of rectangle = length × breadth
- Area of square = side × side
- Area of triangle = $\frac{1}{2}$ × base × height
- Perimeter of rectangle = 2 × (length + breadth)
- Perimeter of square = 4 × side

Examples with Solutions

1. Example – Perimeter (Easy)

Question: A square garden has each side of 7 m Find the length of fence needed.

Solution: Perimeter = 4 × side = 4 × 7 = 28 m

2. Example – Area of Rectangle (Moderate)

Question: A room is 6 m long and 4 m wide What is the area of the floor.

Solution: Area = $6 \times 4 = 24 \text{ m}^2$

3. Example – Combined Area and Perimeter (Moderate)

Question: A rectangle has length 9 m and breadth 5 m Find its area and perimeter.

Solution: Area = $9 \times 5 = 45 \text{ m}^2$

Perimeter = $2 \times (9 + 5) = 2 \times 14 = 28$ m

4. Example – Real-life Word Problem (Moderate)

Question: A blackboard is 2 m long and 1.5 m wide Find the area to be painted.

Solution: Area = $2 \times 1.5 = 3 \text{ m}^2$

5. Example – Area of Triangle (Moderate)

Question: A triangular field has base 10 m and height 6 m Find the area.

Solution: Area =
$$\frac{1}{2} \times 10 \times 6 = 30 \text{ m}^2$$

Summary Points

- Word problems use real-life situations involving area and perimeter.
- Understand what is being asked before solving.
- Use correct formulas based on the shape.
- Area is measured in square units and perimeter in linear units.
- Convert all units to same type before solving.
- Write the final answer with proper unit.
- Area tells how much space is covered inside.
- Perimeter tells the length around a shape.
- Useful in construction, gardening, painting, fencing, and tiling.
- Practice helps in solving word problems faster and accurately.